Technoton DFM D S7 Differential Fuel Flow Meter

Contents

Introduction to the product

DFM D S7 Differential and DFM S7 Fuel Flow Meter connected to FMB using the Bluetooth® interface.

Declaration of Compatibility

DFM (D) S7 Differential Fuel Flow Meter connection

Switch the DFM S7 flowmeter to the operating mode according to the operating instructions.
To obtain the MAC address of the DFM (D) S7 flowmeter, you need to transfer the sensor number

from decimal to hexadecimal code. 

Teltonika FMB connection

Insert a SIM card and supply power to the TELTONIKA terminal.

NOTE: Firmware 03.27.01 Rev:00 or latest.

Terminal configuration and fuel level sensor calibration

Terminal settings in the Configurator

Configure the GPRS data of the SIM card operator and the address of the telematic server:

NOTE: Configurator v1.6.4B.3.27 R2 or latest according to the firmware version.

Choose the protocol as shown below:

Connection of the Differential Fuel Flow Meter to the terminal

Put the sensors near the terminal.
Make ‘Discovering’ of the sensors:

In DFM D S7, data is transferred in 4 PGNs (messages).
In DFM S7, data is transferred in 3 PGNs (messages).
Since only 1 PGN can be configured in one connection (Connection 1), to receive all data from the fuel flow meter we use all four connections with the same MAC address (Connection 1, Connection 2, Connection3, Connection 4 (only DFM D S7)).
Write down the MAC address of the sensor in the settings field and select the PGN settings:

Data from the DFM (D) S7 flowmeter are displayed in the configurator. Press the Low button to select the parameter to be sent to the server:

PGN 63287 configuration

Fuel parameters.
BLE Fuel level 1 - fuel consumption per hour;
BLE Temperature 1 - temperature;
BLE Battery 1 - battery charge level;
BLE Custom1 - hourly fuel consumption (feed);
BLE 1 Custom2 - hourly fuel consumption (reverse);
BLE 1 Custom3 - flow meter operation time (interference);
BLE 1 Custom4 - Unit DTCs Mask;
BLE 1 Custom5 - Unit Events Mask.

PGN 63288 configuration

Total fuel.
BLE 2 Custom1 - High Resolution Engine Total Fuel Used;
BLE 2 Custom2 - High Resolution Engine Total Fuel Used. Idle;
BLE 2 Custom3 - High Resolution Engine Total Fuel Used. Optimal;
BLE 2 Custom4 - High Resolution Engine Total Fuel Used. Overload;
BLE 2 Custom5 - High Resolution Engine Total Fuel Used. Cheating.

PGN 63289 configuration

Operation time.
BLE 3 Custom1 - Flowmeter Hours Of Operation;
BLE 3 Custom2 - Flowmeter Hours Of Operation. Idle;
BLE 3 Custom3 - Flowmeter Hours Of Operation. Optimal;
BLE 3 Custom4 - Flowmeter Hours Of Operation. Overload;
BLE 3 Custom5 - Flowmeter Hours Of Operation. Cheating.

PGN 63314 configuration (only DFM D S7)

Chamber fuel rate.
BLE 4 Custom1 - High Resolution Engine Total Fuel Used. Feed chamber;
BLE 4 Custom2 - High Resolution Engine Total Fuel Used. Reverse chamber;
BLE 4 Custom3 - High Resolution Engine Total Fuel Used. Negative;
BLE 4 Custom4 - High Resolution Engine Total Fuel Used. Feed chamber. Cheating;
BLE 4 Custom5 - High Resolution Engine Total Fuel Used. Reverse chamber. Cheating.

Displaying data on a telematic server

Register the terminal on the telematics server.

The data on the server looks like this:

Sensors configuration

To configure sensors on the server, we use the data in the table:

	Parameter	Parameter on a server	Measurement value
1	Engine Fuel Rate	IO_270*const0.05	L/h
2	Chamber Fuel Rate/Feed chamber	IO_331_dec*const0.05	L/h
3	Chamber Fuel Rate/Reverse chamber	IO_463*const0.05	L/h
4	Engine Fuel Temperature 1	IO_25*const10	T0C
5	Flowmeter Hours Of Operation	IO_464/const3600	h
6	Unit DTCs Mask	O_465	-
7	Unit Event Mask	O_466	-
8	Battery Charge Level	IO_29	%
9	High Resolution Engine Total Used	IO_332_dec*const0.001	L
10	High Resolution Engine Total Used/Idle	IO_467*const0.001	L
11	High Resolution Engine Total Used/Optimal	IO_468*const0.001	L
12	High Resolution Engine Total Used/Overload	IO_469*const0.001	L
13	High Resolution Engine Total Used/Cheating	IO_470*const0.001	L
14	Flowmeter Hours Of Operation	IO_333_dec/const3600	h
15	Flowmeter Hours Of Operation/Idle	IO_471/const3600	h

16	Flowmeter Hours Of Operation/Optimal	IO_472/const3600	h
17	Flowmeter Hours Of Operation/Overload	IO_473/const3600	h
18	Flowmeter Hours Of Operation/Cheating	IO_474/const3600	h
19	High Resolution Engine Total Used/Feed chamber (only DFM D S7)	IO_334_dec*const0.001	L
20	High Resolution Engine Total Used/Reverse chamber (only DFM D S7)	IO_475*const0.001	L
21	High Resolution Engine Total Used/Negative (only DFM D S7)	IO_476*const0.001	L
22	High Resolution Engine Total Used/Feed chamber, Cheating (only DFM D S7)	IO_477*const0.001	L
23	High Resolution Engine Total Used/Reverse chamber, Cheating (only DFM D S7)	IO_478*const0.001	L

An example of setting the fuel consumption per hour on the server:

In the case of using several sensors, it is necessary to limit the number of transmitted messages (PGN).
4 PGNs are available for configuring at any MAC addresses.